
PART 4 OF SCHEDULE 5

END OF TERM REQUIREMENTS

Unless otherwise defined in Schedule 1 [Definitions and Interpretation], capitalized terms used in this Part 4 ascribed to them in the Highway Asset Preservation Performance Measures.

On the End of Term each element of the Project Facilities must comply in all respects with the relevant requirements specified in this Part 4. This Part 4 sets out for the asset condition at the End of Term.

1. ASSET PRESERVATION PERFORMANCE MEASURES

In addition to and without limiting any other requirements under this Part 4 of Schedule 5 [End of Term Requirements] applicable to particular elements of the Project Facilities, at the End of Term each element of the Project Facilities must be in the condition in which it is required to be maintained in accordance with the provisions of the O&M Output Specifications and the O&M Requirements and the other provisions of this Agreement.

The requirements contained in this Schedule are in addition to those defined in Part 1 of Schedule 7 [O&M Output Specifications], which the Concessionaire must comply with throughout the Contract Period on a continual basis. This includes the following:

- Highway Asset Preservation Performance Measures;
- Highway Maintenance Specifications;
- Highway Corridor Management Specification; and
- Local Area Specifications.

2. DETERMINATION OF REMAINING SERVICE LIFE

For purposes of this Part 4, the remaining service life (“RSL”) of an asset component will be determined in accordance with the following:

$$\text{RSL} = (\text{Expected Service Life} \times \text{Condition Adjustment}) - \text{Age}$$

Where: Expected Service Life is the expected service life of the asset component in years taking into account the historic performance of similar construction. The expected service life will be a function of treatment type, design, materials, and construction workmanship.

Age	is the age of the asset component in years between the date of establishment and the current date.
Condition Adjustment	is the adjustment to expected service life to account for current asset condition, past utilization and historic performance of the asset component. The adjustment process will be carried out using Ministry accepted methodologies that exist at the End of Term in consultation with the Concessionaire.

The RSL is assessed for each homogeneous section of the Project Facilities and the lengths of the Project Facilities with the same RSL are accumulated to produce a profile line over the entire range of RSL's (the "RSL Distribution").

3. HIGHWAY RUNNING SURFACES

The following requirement applies to all asphalt paved highway running surfaces at the End of Term:

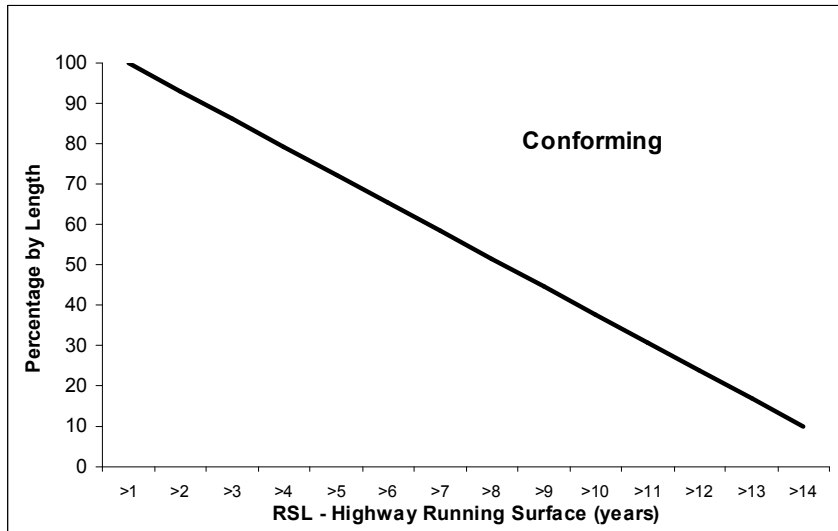
- RSL Distribution - The RSL distribution must ensure a consistent forward rehabilitation program beyond the End of Term.

Calculated on a lane-km basis, the distribution of RSL at the End of Term must exist on or above the limits defined in Figure 3.1. The calculations include asphalt paved traffic lanes and asphalt paved bridge deck wearing surfaces. Patches (areas less than 400 m²) within the traffic lane will be deemed to have a surface age the same as the adjacent surface. Where this is not clearly discernable, then the oldest surface age at the location will be used in the calculations.

At the End of Term, the following criteria must be achieved with respect to the RSL Distribution (see Figure 3.1):

- all surfacing (100% of the Project Facilities) must have an RSL exceeding 1 year;
- 10% of the Project Facilities must have an RSL in excess of 14 years; and
- the RSL for the remainder of the highway asphalt running surface must not fall below a straight line interpolation at any point between the two points defined.

Figure 3.1: RSL Distribution (Highway Running Surface)



4. NEW CROSSING

Main structural components must be repaired, as necessary, such that only conventional maintenance procedures will be required for the 15 year period following the End of Term.

4.1 Structure Components Condition

At the End of Term, the following requirements for the New Crossing will apply:

- Structure Components Condition – No portion of any component type will have a Condition State worse than Fair condition (3.0) and the average Condition Rating of each component type must be lower than 2.5 as defined in the Highway Asset Preservation Performance Measures.

4.2 Bridge Deck Wearing Surface Condition

At the End of Term, the following requirements for New Crossing will apply:

- the remaining bridge deck wearing surface service life for an asphalt wearing surface at the End of Term will be based on the criteria defined in paragraph;
- the remaining bridge deck wearing surface service life for a concrete wearing surface at the End of Term must be at least 15 Years; and
- no portion of the concrete bridge deck wearing surface will have a Condition State worse than Fair condition (3.0) and the average Component Condition

Rating of the concrete bridge deck wearing surface must be lower than 2.5 as defined in the Highway Asset Preservation Performance Measures.

4.3 Bridge Deck Joints

At the End of Term, the following provision for New Crossing will apply:

- No portion of any deck joint will have a Condition State worse than Fair condition (3.0) and the average Component Condition Rating of any deck joint must be lower than 2.5 as defined in the Highway Asset Preservation Performance Measures.

5. NEW CROSSING SLOPE PROTECTION

At the End of Term, the following provision for the New Crossing will apply:

- the slope protection must function as intended in the original design criteria and must be in good condition.

6. MAJOR RETAINING WALLS

At the End of Term, the following requirements for major retaining walls will apply:

- Structure Components Condition – No portion of any component type will have a Condition State worse than Fair condition (3.0) and the average Condition Rating of each component type must be lower than 2.5 as defined in the Highway Asset Preservation Performance Measures.

7. MAJOR CULVERTS AND TUNNELS

At the End of Term, the following requirements for major culverts will apply:

- Structure Components Condition – No portion of any component type will have a Condition State worse than Fair condition (3.0) and the average Condition Rating of each component type must be lower than 2.5 as defined in the Highway Asset Preservation Performance Measures.

8. MAJOR SIGN STRUCTURES

At the End of Term, the following requirements for major sign structures will apply:

- Structure Components Condition – No portion of any component type will have a Condition State worse than Fair condition (3.0) and the average Condition Rating

of each component type must be lower than 2.5 as defined in the Highway Asset Preservation Performance Measures.

9. DRAINAGE AND DEBRIS CONTROL STRUCTURES

At the End of Term, the following requirements for drainage and debris control structures will apply:

- Structure Condition – Structure Condition Index less than or equal to 3.4 as defined in the Highway Asset Preservation Performance Measures.
- Network Component Condition – the condition must be such that no action (i.e. physical works or remediation strategies) is required at the Expiry Date for all Network Component Measures defined in Table 3.4.4 of the Highway Asset Preservation Performance Measures.
- Structure Components Condition – No portion of any component type will have a Condition State worse than Fair (3.0) as defined in the Highway Asset Preservation Performance Measures.

10. ELECTRICAL SYSTEMS

At the End of Term, the following provisions for electrical systems will apply:

- the Concessionaire is required to achieve or exceed the design life expectations based on industry best practices and standards of the electrical system components as defined in the Highway Asset Preservation Performance Measures.

11. INSPECTIONS

The Initial Inspection, the Second Inspection and the End of Term Inspection, and all assessments and inspections in connection therewith, will be carried out using the Ministry's current assessment and inspection methodology as more particularly described in Part 1 of Schedule 7 [O&M Output Specifications] and the data inputs for such methodology shall be based on information obtained during the Contract Period. To the extent there is a dispute between the Province and the Concessionaire as to the final result of the application of such assessment, such dispute shall be resolved in accordance with the Disputes Resolution Procedure set out in Schedule 16 [Disputes Resolution Procedure].

Ministry accepted methodologies that exist at the date of the relevant Inspection. Current methods may be refined including observational surveys and physical testing methods.

**PART 5 OF SCHEDULE 5
LIST OF PERMITS, LICENCES AND APPROVALS**

1. The Permits, Licences and Approvals to be obtained by the Concessionaire include the following (the Concessionaire expressly acknowledges that the following is not an exhaustive list):

Permit	Date by which Permit should be obtained
1.1 Authorization from DFO for construction methodology for Works and Decommissioning	120 days after submission of a complete application by the Concessionaire.
1.2 Authorization from DFO for construction of Graving Dock Construction Facility	120 days after submission of a complete application by the Concessionaire.

2. The Province Permits, Licences and Approvals are:

- 2.1 DFO Initial Authorization - obtained March 10, 2005
- 2.2 Water Act Approval - obtained July 5, 2004
- 2.3 Authorization under the Navigable Waters Protection Act for the navigation channel in the New Crossing - obtained April 8, 2005

PART 6 OF SCHEDULE 5

TRAFFIC MANAGEMENT OUTPUT SPECIFICATIONS

1.0 Provision for Traffic Management

Prior to carrying out any work on the Site that would impact traffic, the Concessionaire shall prepare Traffic Management Plans in accordance with the requirements of Category 5 as defined in the Traffic Management Guidelines for Work on Roadways, unless otherwise approved by the Province's Representative. Traffic Management Plans shall include all sub-plans, including Traffic Control, Communications, Incident Management and Implementation. For the Original Service Period, these requirements shall be consistent with Section 11.8.1 of this Agreement.

Pedestrian and cyclist access shall meet the requirements of Section 3.11 of Part 1 of Schedule 5 [Construction Output Specifications].

1.1 General Requirements

The Concessionaire's work plan, construction schedule and its provisions for traffic management and safety shall be based on providing safe and efficient passage for all traffic through the Site in accordance with Section 1.2 of the Traffic Management Strategy. The Concessionaire shall, at all times, make provision for traffic through the Site to a sufficiently high standard to ensure the safety and convenience of all persons, including but not limited to the workers on the Project, the safety of the travelling public, including cyclists and pedestrians, driver expectancy consistent with the corridor, and the protection of the Works.

Section 194 of the Standard Specifications shall apply as modified herein. All traffic control shall be in accordance with the Traffic Control Manual for Work on Roadways (TCM - 1999 Edition) ("Traffic Control Manual") and Part 18 of the Occupational Health and Safety Regulation.

The Concessionaire shall provide notification of any changes to traffic patterns affecting the free passage through the Site to the Provincial Highways Condition Centre (Telephone: 604-660-9773; Fax: 1-800-567-6684), all emergency services including, without limitation, the fire departments, police departments, and ambulance service, and to any other major company user groups (including without limitation, any school bus, or public transit) and shall inform the motoring public of impending changes in traffic patterns caused by its operations.

Any one or more of the advance warning area, transition area, buffer space and termination area of the traffic control (work) zone may be outside the Site, but this in no way diminishes the Concessionaire's responsibility to meet the requirements of the Traffic Control Manual for Work on Roadways.

1.2 Traffic Management Strategy

The Traffic Management Strategy shall meet the requirements of the Traffic Management Guidelines for Work on Roadways (September 2001) (“Traffic Management Guidelines”).

The Province will ensure that existing road and bridge maintenance contractor will allow the Concessionaire to close lanes on the Existing Bridge in order to aid construction of the Works. The extent of closures will be governed by the rules set out below. The road and bridge contractor will have rights to refuse closures based on other priorities, including use of lift span, emergencies and public safety. Both parties must co-ordinate their work in this respect but work under the Agreement generally takes priority, subject to the above.

The Concessionaire shall, during the Original Service Period, ensure the following traffic engineering requirements are incorporated into all Traffic Management Plans, unless otherwise approved by the Province's Representative.

Continuous uninterrupted, three (3) lane contra flow operation shall be maintained on the Existing Bridge and immediate approaches. Closures on the Existing Bridge may be permitted in accordance with the following criteria:

(a) Single lane Closure on the Existing Bridge while maintaining 1 traffic lane in each direction may be permitted during the following timeframes:

Jan 1 - June 30 evenings/night from 8:00pm to 6am

July 1 - Sept 15 evenings/night from 10:00pm to 6am

Sept 16 - Dec 31 evenings/night from 8:00pm to 6am

Exception - Closures shall not be permitted on the night of a major civic event, including events scheduled at Prospera Place in Kelowna.

Exception - Lane Closures shall not be permitted on the night before or the night after a holiday long weekend.

(b) Single Lane Alternating Traffic - may be permitted under the following conditions:

Maximum lane Closure length not greater than 600m

Maximum 2-way traffic flows not exceeding 900vph (maximum 10 minute delay per vehicle moving through the traffic control zone and not more than 60 vehicle (500m) queues in each direction)

(c) Total Closures not exceeding - 5 minute duration (to relocate equipment & materials) may be permitted under the following conditions:

Maximum traffic volumes in any one direction not exceeding 700vph, queues not to exceed 60 vehicles in either direction and queue length not to exceed 500m.

(d) Total Closures not exceeding - 20 minutes may be permitted under the following conditions:

Maximum traffic volumes in any one direction not exceeding 175vph with queues not to exceed 60 vehicles in either direction and queue length not to exceed 500m.

Contingency emergency measures have been arranged and agreed to in advance with local/regional fire, police and ambulance

The Concessionaire shall closely monitor all lane Closures and, where necessary, take measures to adjust or limit the Closures where traffic queues and specified allowable delays are exceeded.

Alternative Closure schemes for maintenance or construction activities may be considered based on specific Traffic Management Plans submitted to the Province's Representative for review and approval.

1.2.1 General Traffic Requirements

Traffic Management Plans shall meet the requirements of the Traffic Management Guidelines and include plans of any detour or lane Closures including sign locations and laning geometry as required by the Traffic Control Manual for Work on Roadways.

A flashing arrow board shall be used at all lane drop locations.

Where excavations are made adjacent to a travelled lane, causing a drop off which is or could be hazardous to public traffic, the Concessionaire shall either place a concrete roadside barrier to separate the traffic from the hazard, or backfill the excavation and install select granular sub-base shaped to eliminate the hazard prior to the end of each shift.

The Concessionaire shall be required to provide a minimum of two portable changeable message signs, to be used to inform highway traffic of existing and anticipated conditions as per Section 194.46 of the Standard Specifications except as modified herein.

The portable changeable message signs shall be: Precision Solar Controls, SMC full matrix (solar powered message centre) or equivalent. The specifications of the sign are as follows:

Sign Unit: Yellow LED display

Sign Display: 3 lines with 8 characters per line

Character Size: 18 inches (450 mm) high

Character Matrix: 5 x 7

Sign locations and messages shall be shown on the Traffic Control Plan drawings.

Each portable changeable message sign, when in operation, shall be a minimum of 2 m from the bottom of the sign display to the road surface, and shall be level and capable of pivoting for sighting purposes.

The Concessionaire shall be entirely responsible for the signs, including but not limited to bringing the signs to the Site, moving and setting, providing storage as required including moving the signs into and out of storage, maintaining the signs in full operating condition, ensuring the correct message is being displayed, damage to or loss of the signs, and returning the signs to the supplier.

1.2.2 Traffic Control and Detour Specifications During Construction

Traffic Control for Single Lane Operations

Design classification: Urban Arterial Undivided

Minimum posted construction speed: 50km/hr

Minimum number of paved lanes open in each direction: 1

Roadway Detour Design Requirements as per Section 194.27 of the Standard Specification, except as modified herein:

Design Vehicle: WB-20

Design Speed: 50 km/hr

3.5 m minimum paved lane width

1.5 m minimum paved open shoulder width

0.5 m minimum paved clearance to concrete roadside barrier

Portable changeable message signs

Flashing arrow boards

1.3 Concessionaire's Deliverables

1.3.1 Traffic Control Supervisor

The Concessionaire shall appoint a Traffic Control Supervisor, as detailed in Section 194.04 of the Standard Specifications.

1.3.2 Traffic Management Plan

The Concessionaire shall prepare and submit a written Traffic Management Plan as per Section 194, Part B, of the Standard Specifications, except as modified herein. The written Traffic Management Plan covering the Site shall be submitted to the Province's Representative a minimum of three (3) weeks prior to commencement of any construction affecting traffic. The Concessionaire shall update and resubmit that plan for review as necessary for acceptance by the Province's Representative. No work that affects traffic shall be permitted until the Province's Representative accepts the Traffic Management Plan. The Traffic Management Plan shall include:

- A traffic control plan.
- A public information plan.
- An incident management plan.
- An implementation plan.

The Traffic Management Plan is to be signed and sealed by a duly qualified professional engineer registered in the Province of British Columbia who has demonstrated experience with traffic control on a roadway of this type.

The Traffic Management Plan shall be fully integrated with the Concessionaire's construction staging plan and Works Schedule, comply with the requirements of the *Workers Compensation Act* and the *Occupational Health and Safety Regulations*, the Traffic Control Manual, Traffic Management Guidelines, Section 194 of the Standard Specifications and the Traffic Control Specifications listed in Section 1.2.2, and with the provisions of this Agreement and shall include, but not be limited to, the Concessionaire's detailed provisions for:

- (a) major deviations to the traffic patterns or behaviour including all detours, lane shifts and drops, and construction speed zones;
- (b) overviews of provisions for minor deviations to traffic flow;

- (c) provisions for pedestrian and cyclist access through the Site. All Closure and rerouting of pedestrian and cyclist access is to be included with the Traffic Management Plan;
- (d) site-specific factors affecting the generic signing layouts shown in the Traffic Control Manual, including horizontal and vertical roadway geometry, anticipated weather conditions, type of traffic, nature of local driving habits, and any other relevant risk factors;
- (e) contingency plans for night work performance;
- (f) general procedures for maintenance and inspection;
- (g) contact procedures for the traffic control supervisor(s) and their alternates, the Provincial Highways Condition Centre, emergency services, and other significant parties impacted by the anticipated traffic control measure; and
- (h) any additional information as requested by the Province's Representative.

Where any detour extends beyond the existing road surface, the Concessionaire shall submit an engineering design to the Province's Representative for review, a minimum of 21 days in advance. The engineering design shall include the design speed, the horizontal and vertical geometry, plus evidence that the WB-20 design vehicle is accommodated for all movements and that all other requirements of this Agreement are satisfied.

Where the anticipated deviation is minor, the Concessionaire may apply to the Province's Representative for approval to proceed without a formal design. Such approval does not relieve the Concessionaire of any of its responsibilities for provision of a safe worksite.

1.3.3 Specific Traffic Management Control Plans

The Concessionaire shall have a written specific Traffic Control Plan, meeting the requirements of the Traffic Control Manual, Traffic Management Guidelines, and the Traffic Control Specifications listed in section 1.2.2, *Workers Compensation Act*, the *Occupational Health and Safety Regulations* and this Agreement, in place for each work area requiring traffic control. These plans shall detail the site-specific traffic control measures and layouts to be used, and include a full assessment of the relevant risk factors.

When requested, specific Traffic Control Plans shall be submitted to the Province's Representative for review.

1.3.4 Site Documents

Copies of the Traffic Management Plan shall be retained on site by the Concessionaire's Superintendent, the Traffic Control Supervisor(s) and their alternates, and by at least one Traffic Control Person at each specific work area.

The Traffic Control Supervisor and each Traffic Control Person shall have a copy of the specific Traffic Management Plan applicable to the work area(s) under their control.

Upon request, any of the above parties shall immediately provide those documents to the Province's Representative, a Workers Compensation Board officer, or any other party with authority interested in the traffic control on the Site.

1.4. Province's Responsibilities

The Province's Representative shall review the Concessionaire's Traffic Management Plan for general conformance with the requirements of this Agreement and for sufficiency of detail to provide a complete and unambiguous traffic control layout. No approval or change requested by the Province's Representative in any way relieves the Concessionaire of any of its responsibilities for ensuring safe and adequate traffic control.

The Province's Representative shall not control or direct the traffic control activities of the Concessionaire, but may require an amendment to the Traffic Control Plan where, in the Province's Representative's opinion, the provided traffic control does not meet the delay requirements of this Agreement or does not adequately protect the safety of the public.